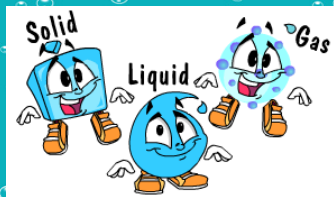


CHAPTER 1 - SECTION 1



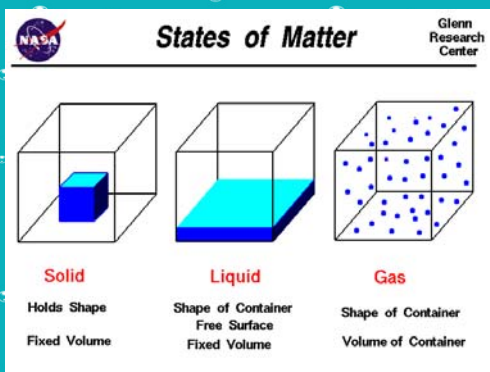
DESCRIBING MATTER

Chapter 1-Section 1 p. 14-21

Matter: anything that takes up space and has mass; the **STUFF** in the world!

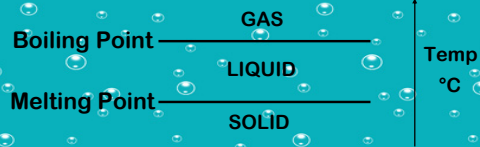
A. **Three** states of matter

1. **solid** ex. ice
2. **liquid** ex. water
3. **gas** ex. water vapor



B. **Characteristic properties: NEVER** change for a substance and can be used to **identify unknown matter**

1. **Boiling point:** the temperature when a substance turns from a liquid to a gas
2. **Melting point:** the temp when a substance changes from a solid to a liquid



II. Changes in Matter

A. **Physical changes** alter the form of a substance, but not its identity

1. boiling
2. melting
3. other examples: tearing, crushing

B. **Chemical changes** form **NEW** substances

1. burning wood - Ash, smoke, other gases
2. food digestion - carbohydrates to sugars

C. **Chemical changes** are a characteristic property; substances undergo **SPECIFIC** chemical changes

III. Types of Matter

- A. **Mixture: consists of two or more substances that are in the same place but not chemically combined**
 - 1. in a mixture, individual substances keep their separate properties
 - 2. **Solution: mixtures that are so well blended they appear to be a single substance**
- B. **Pure Substances: made of only ONE kind of matter and has DEFINITE properties**
 - 1. **Elements: cannot be broken down into other substances by ANY means**
 - a. many are metals, others are gases

2. **Compounds: substances made of two or more elements that are chemically combined**

- a. examples: H_2O – water
 CO_2 – Carbon Dioxide
 C_4H_{10} – Butane
- b. **properties of compounds are different from the properties of the elements that formed the compound**

Example:
hydrogen is a gas & oxygen is a gas;
combined, H_2O is a liquid